Listing of Claims

- 1. (currently amended) In a traffic control system for coordinated operation of a plurality of traffic control lights; a malfunction management unit having input terminals for receiving control signals grouped in channels and used to operate the traffic control lights; assignment means for establishing a parent channel-child channel relationship for the purpose of Red Fail fault testing; monitoring means for detecting a Red Fail fault from the signals in the parent channel and the child channel and for generating a Red Fail fault signal when all parent channel signals and some child channel signals are concurrently inactive; and an output coupled to said monitoring means for controlling the operation of an output relay used to transfer the operation of the traffic control lights to a flashing mode of operation when such a Red Fail fault is detected.
- 2. (currently amended) The invention system of claim 1 wherein said malfunction management unit includes a manually settable switch for enabling and disabling said monitoring means.
- 3. (currently amended) The invention <u>system</u> of claim 1 wherein said malfunction management unit includes a display for indicating whether a Red Fail fault has occurred.
- 4. (currently amended) The invention system of claim 1 wherein said child channel has Green, Walk, and Yellow control signals; and wherein said monitoring means ignores the Yellow some child channel signals comprise said Green and Walk control signals for Red Fail fault testing.
- 5. (currently amended) The invention system of claim 1 wherein said child channel has Green, Walk, and Yellow control signals; and wherein said monitoring means examines all the some child channel signals comprise said Green, Walk, and Yellow control signals for Red Fail fault testing.

- 6. (currently amended) A method of monitoring for Red Fail faults in a traffic control system for coordinated operation of a plurality of traffic control lights; said method comprising the steps of:
 - (a) providing a plurality of input terminals for receiving control signals grouped in channels and used to operate the traffic control lights;
 - (b) establishing a parent channel-child channel relationship for the purpose of Red Fail fault testing;
 - (c) detecting a Red Fail fault from the signals in the parent channel and the child channel by generating a Red Fail fault signal when all parent channel signals and some child channel signals are concurrently inactive; and
 - (d) controlling the operation of an output relay used to transfer the operation of the traffic control lights to a flashing mode of operation when such a Red Fail <u>fault</u> is detected.
- 7. (currently amended) The invention method of claim 6 further including the step of providing a manually settable switch for enabling and disabling said menitoring means step (c) of detecting.
- 8. (currently amended) The invention method of claim 6 further including the step of providing a display for indicating whether a Red Fail fault has occurred.
- 9. (currently amended) The invention method of claim 6 wherein said child channel has Green, Walk, and Yellow control signals; and wherein the Yellow signals are ignored during said step (c) of detecting includes the step of generating a Red Fail fault signal when all parent channel signals and said Green and Walk control signals are concurrently inactive.
- 10. (currently amended) The invention method of claim 6 wherein said child channel has Green, Walk, and Yellow control signals; and wherein the Yellow signals are included during said step (c) of detecting includes the step of

generating a Red Fail fault signal when all parent channel signals and said Green . Walk and Yellow control signals are concurrently inactive.

- 11. (new). The system of claim 1 wherein said monitoring means includes delay means for establishing a minimum time period during which all parent channel signals and some child channel signals are concurrently inactive before permitting the generation of said Red Fail fault signal.
- 12. (new) The method of claim 5 wherein said step (c) includes the step of waiting a minimum time period during which all parent channel signals and some child channel signals are concurrently inactive before generating the Red Fail fault signal.